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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,418	07/30/2003	Mark W. Fagan	2003-0030.02	8932

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LEXMARK INTERNATIONAL, INC.
INTELLECTUAL PROPERTY LAW DEPARTMENT
740 WEST NEW CIRCLE ROAD
BLDG. 082-1
LEXINGTON, KY 40550-0999

EXAMINER	
DO, AN H	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/630,418	FAGAN ET AL.	
	Examiner	Art Unit	
	An H. Do	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *21-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The Terminal Disclaimer filed on 22 August 2006 has been acknowledged.

Terminal Disclaimer

1. The terminal disclaimer filed on 22 August 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Application No. 11/122,399 has been reviewed and is NOT accepted.

The terminal disclaimer does not comply with 37 CFR 1.321(b) and/or (c) because:

> It does not include a recitation that any patent granted shall be enforceable only for and during such period that said patent is commonly owned with the application(s) or patent(s) which formed the basis for the double patenting rejection. See 37 CFR 1.321(c)(3).

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 3, 4, 10, 12, 13 and 19 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 26, 27, 29 and 31 of copending Application No. 11/122,399. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant application and the Application '399 claim the same subject matter as a method of informing a user of an imaging apparatus of an event as shown in the following TABLE:

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

U.S. Application No. 10/630,418 CLAIMS	U.S. Application No. 11/122,399 CLAIMS
1. A method of informing a user of an imaging apparatus of an event, said imaging apparatus having a plurality of print modes, said method comprising the steps of: defining a notice threshold that is associated with said event; determining whether said notice threshold has been reached; and upon reaching said notice threshold, progressively reducing an image density of an image formed by said imaging apparatus based on a print mode said imaging apparatus was operating in when said notice threshold was reached. 3. The method of claim 1, wherein said event is a depletion of a usable supply of imaging substance available to said imaging apparatus. 4. The method of claim 1, wherein said imaging apparatus is an ink jet printer, said notice threshold is one of a plurality of thresholds, each of said plurality of thresholds having associated therewith a respective corresponding amount of ink remaining. 10. An imaging apparatus having a plurality of print modes selectable by a user, comprising: a print engine; a memory that stores a notice threshold associated with an event; and a control system coupled to said print engine and coupled to said memory, said control system being configured to perform the steps of: determining whether said notice threshold has been reached; and upon reaching said notice threshold, progressively reducing an image density of an image formed by said imaging apparatus based on a print mode said imaging apparatus was operating in when said notice threshold was reached. 12. The imaging apparatus of claim 10, wherein said event is a depletion of a usable supply of imaging substance available to said imaging apparatus. 13. The imaging apparatus of claim 10, wherein said imaging apparatus is an ink jet printer, said notice threshold is one of a plurality of thresholds, each of said plurality of thresholds having associated therewith a respective corresponding amount of ink remaining.	1. A method of informing a user of an ink jet printer of the end of life of a consumable, said consumable supplying ink to a printhead, said printhead including a plurality of ink ejection nozzles and an associated plurality of ink jetting actuators, each of said plurality of ink jetting actuators being addressable, said printhead including a plurality of address lines for facilitating selection of one or more of said plurality of ink jetting actuators, said method comprising the steps of: defining a notice threshold that is associated with a corresponding amount of ink remaining in said consumable; providing control logic for selectively controlling said plurality of address lines; determining whether said amount of ink remaining in said consumable has reached said notice threshold; and upon reaching said notice threshold, reducing an image density of images formed by said printhead by selectively masking at least one of said plurality of address lines. 2. The method of claim 1, wherein said notice threshold is one of a plurality of thresholds, each of said plurality of thresholds having associated therewith a respective corresponding amount of ink remaining, wherein said image density of images formed by said printhead is progressively reduced by progressively increasing a number of said plurality of address lines that are masked as each of said plurality of thresholds are sequentially reached. 26. The method of claim 1, wherein said image density of images formed by said printhead is progressively reduced by progressively increasing a number of said plurality of address lines that are masked.

U.S. Application No. 10/630,418 CLAIMS	U.S. Application No. 11/122,399 CLAIMS
19. An ink jet printer having a plurality of print modes selectable by a user, comprising: a carrier for carrying a printhead, said printhead being connected in fluid communication with a reservoir, said reservoir containing a supply of ink; a memory that stores a notice threshold associated with a usable amount of ink in said reservoir having been depleted; and a control system coupled to said printhead and coupled to said memory, said control system being configured to perform the steps of: determining whether said notice threshold has been reached; and upon reaching said notice threshold, progressively reducing an image density of an image formed by said ink jet printer based on a print mode said ink jet printer was operating in when said notice threshold was reached.	27. An ink jet printer, comprising: a carriage for carrying a printhead, said printhead being connected in fluid communication with a consumable, said consumable containing a supply of ink, said printhead including a plurality of ink ejection nozzles and an associated plurality of ink jetting actuators; a plurality of address lines connected to said plurality of ink jetting actuators for facilitating selection of one or more of said plurality of ink jetting actuators; a switching unit connected to said plurality of address lines for selectively masking said plurality of address lines; a device that determines an amount of ink remaining in said consumable; a memory that stores a notice threshold associated with a corresponding amount of ink remaining in said consumable; and a controller coupled to said switching unit, to said device and to said memory, said controller reading said amount of ink from said device and comparing said amount of ink with said notice threshold stored in said memory, and upon said amount of ink reaching said notice threshold, said controller supplying signals to said switching unit for selectively individually masking at least one of said plurality of address lines to reduce an image density of images formed by said printhead. 29. The ink jet printer of claim 27, wherein said notice threshold is one of a plurality of thresholds stored in said memory, each of said plurality of thresholds having associated therewith a respective corresponding amount of ink remaining, wherein said controller controls said switching unit to progressively reduce said image density of images formed by said printhead by progressively increasing a number of said plurality of address lines that are masked by said switching unit as each of said plurality of thresholds are sequentially reached. 31. The ink jet printer of claim 27, wherein said image density of images formed by said printhead is progressively reduced by progressively increasing a number of said plurality of address lines that are masked.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have claims 1, 3, 4, 10, 12, 13 and 19 anticipated by claims 1, 2, 26, 27, 29 and 31 of Application'399 so as to obtain more variety of claiming features as claimed in the instant application.

4. Claims 2, 5-9, 11, 14-18 and 20 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 26, 27, 29 and 31 of copending Application No. 11/122,399 in view of Sakuma (US 5,663,750).

This is a provisional obviousness-type double patenting rejection.

Claims 1, 2, 26, 27, 29 and 31 of copending Application No. 11/122,399 disclose the claimed invention except for reciting the following claimed features:

Regarding claims 2, 6, 11, 15 and 20, further comprising the step of defining a respective number of print swaths for each of said plurality of print modes at which a next print density of a plurality of print densities will be selected to facilitate said progressively reducing step.

Regarding claims 5 and 14, further comprising the step of defining a plurality of print densities for use in progressively reducing sad image density of said image.

Regarding claims 7 and 16, wherein said respective number of print swaths increases with an increase of printing resolution of said plurality of print modes.

Regarding claims 8 and 17, wherein a number of print swaths for a first print mode having a first print resolution is less than a number of print swaths for a second printing mode having a second print resolution higher than said first print resolution.

Regarding claims 9 and 18, wherein said step of progressively reducing an image density is achieved relatively uniformly for each of a first print mode and a second print mode.

Sakuma teaches the following claimed features:

Regarding claims 2, 6, 11, 15 and 20, further comprising the step of defining a respective number of print swaths for each of said plurality of print modes at which a next print density of a plurality of print densities will be selected to facilitate said progressively reducing step (column 8, lines 7-13: reducing volume to 2/3 while in normal printing mode and reducing volume to ½ while in saving mode). And also Sakuma therefore teaches an imaging apparatus in view of the fact that the method is taught.

Regarding claims 5 and 14, further comprising the step of defining a plurality of print densities for use in progressively reducing sad image density of said image (column 8, lines 7-13: reducing volume to 2/3 while in normal printing mode and reducing volume to ½ while in saving mode). And also Sakuma therefore teaches an imaging apparatus in view of the fact that the method is taught.

Regarding claims 7 and 16, wherein said respective number of print swaths increases with an increase of printing resolution of said plurality of print modes (Figure 8 shows when a warning displays, the ink mode is activated but if a new cartridge exchanged then the normal and original print mode is activated. Therefore, the number of print swaths increases with an increase in printing resolution). And also Sakuma therefore teaches an imaging apparatus in view of the fact that the method is taught.

Regarding claims 8 and 17, wherein a number of print swaths for a first print mode (when the printing is in saving mode) having a first print resolution (column 8, lines 7-13: reducing volume to ½ while in saving mode) is less than a number of print swaths for a second printing mode (when the printing resumes in normal mode after the

exchange of cartridge) having a second print resolution (original drive signal) higher than said first print resolution (Figure 8, column 7, lines 62-67). And also Sakuma therefore teaches an imaging apparatus in view of the fact that the method is taught.

Regarding claims 9 and 18, wherein said step of progressively reducing an image density is achieved relatively uniformly for each of a first print mode (normal printing mode) and a second print mode (saving mode) (column 8, lines 3-13). And also Sakuma therefore teaches an imaging apparatus in view of the fact that the method is taught.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a plurality of print swaths, a plurality of print densities and a plurality of thresholds as taught by Sakuma into claims 1, 2, 26, 27, 29 and 31 of copending Application No. 11/122,399 as to determine the status of ink remaining in a cartridge and warn the user the status based on the print modes.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to An H. Do whose telephone number is 571-272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AD
October 28, 2006

An H. Do
Primary Examiner
Art Unit 2853